

ARCHÆOLOGICAL SURVEY OF INDIA.

NEW IMPERIAL SERIES, VOLUME XV.

# SOUTH INDIAN BUDDHIST ANTIQUITIES;

INCLUDING THE

STÛPAS OF BHATTIPRÔLU, GUÐIVÂDA, AND GHANṬASÂLÂ.  
AND OTHER ANCIENT SITES

IN THE

KRISHNÂ DISTRICT, MADRAS PRESIDENCY;

WITH NOTES ON

DOME CONSTRUCTION; ANDHRA NUMISMATICS; AND MARBLE SCULPTURE.

BY

ALEXR. REA, M.R.A.S.,

SUPERINTENDENT OF THE ARCHÆOLOGICAL SURVEY, MADRAS.

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VOLUME XV.



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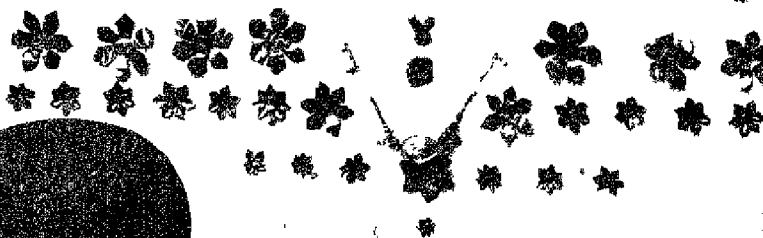
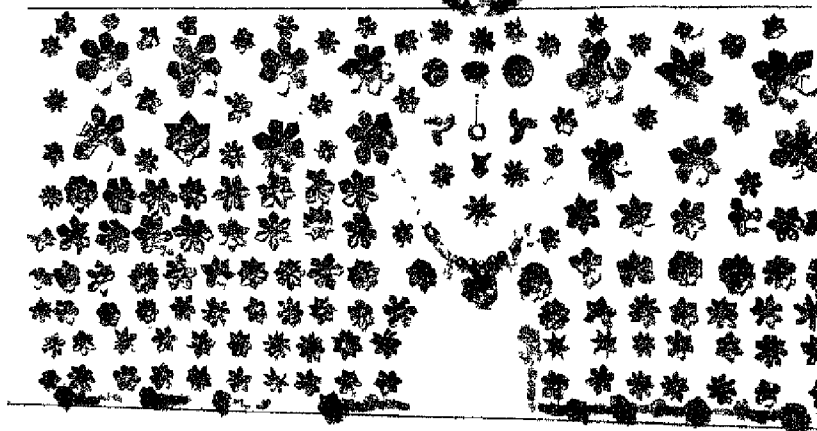
VOLUME VI.

SOUTH INDIAN BUDDHIST ANTIQUITIES.

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## PREFACE.

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THE present volume contains the results of excavations conducted at the ruined stūpas at Bhattiprōḷu, Gudivada and Ghantaśālā during the beginning of 1892

It is to be regretted that all these works, in common with most others of their class, have suffered at the hands of those who required material for the construction of roads or other such works. Though among the oldest existing monuments of an ancient civilization, their great antiquity was no protection from the despoiling hands of the adjacent villager, who scrupled not to destroy the finest works of art to provide material for the building of his wretched mud shrine. These despoilers were only gradual in their operations, as some examples which have existed up to the present time show; and, had they been the only ones, much more of these buildings might even yet have existed, but unfortunately there were others less excusable, who systematically reduced these buildings as they would a quarry. It was thought that this species of vandalism was only practised before the historical and artistic value of these ancient works was appreciated; but even yet, in spite of Government orders to the contrary, we occasionally hear of it. Such being the case, we can only unearth and endeavour to piece together such remains as have escaped the notice of the despoilers. We have been able to gather from these—in many cases seemingly shapeless mounds—that the architectural works of the Buddhists have never been excelled by any of later date existing in India. Unlike the later architecture of the Dravidians, their buildings not only contained master-pieces of detail, but the buildings were themselves perfect examples of architectural composition.

The most important results of the excavations were achieved at the former of these stūpas. These show what may still lie buried in buildings which have seemingly been denuded of everything valuable. This temple had been examined and declared utterly ruined, with nothing of value in it left; yet buried in the centre of the masonry were important historical documents in a form of alphabet hitherto unknown. Independent of the importance of the inscriptions themselves, their position in the building fixes them as an infallible index to the date of its foundation. Inscriptions placed around a building may have been engraved at or subsequent to its erection, but there can be no doubt as to these.

Regarding the character of these recently discovered inscriptions, which are written in a new variety of the Southern Maurya or Lāt alphabet, Dr Buhler writes :\*

“The Bhattiprōlu inscriptions cannot be placed later than 200 B.C., and may even be a little older. If this estimate is correct, their characters prove (what, indeed, is also made probable by facts connected with Aśoka’s edicts) that during the third century B.C. several well-marked varieties of the Southern Maurya alphabet existed. For they contain a perfectly worked-out system, which cannot have sprung up in a short time, but must have had a long history.

“The importance of this result lies herein, that it removes one of the favorite arguments of those scholars who believe the introduction of writing into India to have taken place during the rule of the Maurya dynasty or shortly before its beginning. It has been stated repeatedly that one of the facts, proving the Aśoka edicts to belong to the first attempts of the Hindus in the art of writing, is the absence of local varieties among the letters of versions incised at places between which lie distances of more than a thousand miles. This argument is based, as I have pointed out more than once, on imperfect observation; and it may be met also by the obvious objection, that Aśoka’s edicts were all issued from the same office, and that the importance naturally attributed to the writing of the royal clerks at Pātaliputra might be expected to influence the copyists in the provinces, and to induce them to imitate as closely as possible the shape of the letters used at head-quarters. Nevertheless, if the Bhattiprōlu inscriptions now show a system of writing, which, in some respects, is radically different, and which may be reasonably supposed to be coeval with that in Aśoka’s edicts, they furnish a very great help to those who, like myself, believe the art of writing to have been practised in India for centuries before the accession of Chandragupta to the throne of Pātaliputra.”

The great majority of the mounds hitherto examined are situate in the Krishna district, where numerous unexplored remains yet exist. But as this district marks the southern boundary of the districts which ought to be rich in Buddhist remains, we may expect to make even more interesting discoveries when those to the north of it are explored. The rock-cut monuments at Nāgalapalle, and the more recently discovered remains of stūpas and monastic buildings at Arugōlu in the Godāvāri district, are examples of what may be expected. The latter were brought to notice by Mr. Higgens, the Collector of Godāvāri, who, appreciating the importance of these remains, ordered that their destruction to provide bricks should cease.

When these mounds are catalogued under the orders of Government, we will have some record of what really exists and know exactly where to go to

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\* *Academy*, 28th May 1892.

them. At present, without a knowledge of their locality, much time will be wasted in searching for them, and even then, some would be certain to escape notice. When this is done, we may expect less instances of dismantling of these ruins to occur; cases which being carried out in unknown localities are probably never heard of, or, if so, only after irreparable damage has been done.

It has not been thought necessary to include any historical notes on the Andhra dynasty whose works these are. All present available information on the subject has been utilized by Dr. Burgess in his recent work on *Anurâvati*.

The references to published works on other examples of the class of monuments described in this volume are much less complete than I could have wished; but they include all that I have been able to make available. The work is thus chiefly confined to descriptions of the actual results obtained by survey. Further comparisons with such works and deductions resulting therefrom must be left to those who may possess better means of reference.

BANGALORE,  
29th November 1892.

A. REA.

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## CONTENTS.

CHAPTER		PAGE
I.—	CONSTRUCTION OF DOMES OF SOUTH INDIAN STÜPAS	1
II.—	RAILS	5
III.—	BHATTIPRÖLU Previous explorations at the stupa	7
IV.—	Do Discovery of caskets and relics	9
V.—	Do First casket	11
VI.—	Do Second casket	13
VII.—	Do Third casket	14
VIII.—	Do Excavation around the building	15
IX.—	REMAINS NEAR BHATTIPRÖLU (Chinna Lakṣṇa dibba and Vikramārka kōṭa dibba)	17
X.—	THE STÜPA AT GUDIVĀDA	18
XI.—	SITE OF THE ANCIENT VILLAGE	20
XII.—	ANDHRA COINS FROM GUDIVĀDA	21
XIII.—	GHANTAŚĀLA Excavation at the stüpa	32
XIV.—	Do Piers	35
XV.—	Do Bases and capitals	36
XVI.—	Do Slabs from the stüpa	37
XVII.—	Do Marble slabs with modern sculptures	38
XVIII.—	Do The design of the stüpa	39
XIX.—	OTHER REMAINS IN AND NEAR GHANTAŚĀLA	42
XX.—	ANCIENT SITES IN THE RĀJALE TALUK	44
XXI.—	AMARĀVATI Buddhist marble carving	47

## APPENDIX.

NOTE ON THE STONES FROM THE BHATTIPRÖLU CASKETS	51
---	----

# LIST OF PLATES.

		PAGE
I.—BHATTIPRODU	Relics and crystal caskets	To page 101.
II.—Do	Details of construction	7
III.—Do	Large stone caskets	9
IV.—Do	Relics of first casket	12
V.—Do	Insenbad crystal hexagon	"
VI.—Do	Relics of second and third caskets	14
VII.—Do	Marble umbrella, and pilaster base	16
VIII.—Do	Pilaster capital	"
IX.—Do	Portion of a slab from the stūpa	"
X.—Do	Two piers	"
XI.—GUDIVĀDA	Jana image	20
XII.—Do	Amūra coins (obverse types)	22
XIII.—Do	Amūra coins (reverse types)	"
XIV.—GHANASĀLA	Plan and section of the stūpa	32
XV.—Do	Carved Śrī pāda	"
XVI.—Do	Coping rail panel	"
XVII.—Do	Earthenware relic caskets	"
XVIII.—Do	Pier	34
XIX.—Do	Pier	"
XX.—Do	Pier	"
XXI.—Do	Square base	36
XXII.—Do	Carved circular band	"
XXIII.—Do	Moulded circular marble with square socket	"
XXIV.—Do	Square-stepped stone with circular socket	"
XXV.—Do	Marble umbrella	"
XXVI.—Do	Sculptured rail panel	"
XXVII.—Do	Chaitya slab	"
XXVIII.—Do	Figure and tree sculptured slab	"
XXIX.—Do	Slab with figure of Naraṇha	38
XXX.—Do	Slab with figure of Bhairava	"
XXXI.—Do	Slab with figure of Sarasvatī	"
XXXII.—Do	Slab with figure of Ratī	"
XXXIII.—Do	Brass trisula, dīpa, and chekra	42
XXXIV.—Do	Brass image of biva	"
XXXV.—Bazvāda	Sculptured Jana column	44
XXXVI to XLVII.—AMARĀVATĪ	Examples of Buddhist carving	To the end.

# REPORT OF THE ARCHÆOLOGICAL SURVEY OF SOUTHERN INDIA.

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## SOUTH INDIAN BUDDHIST ANTIQUITIES.

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### CHAPTER I.

#### CONSTRUCTION OF DOMES OF SOUTH INDIAN STŪPAS.

THE evolution of the various forms of plan or construction which is seen in stūpas, would seem to have followed a definite course, and a consideration of it may form one of the indications which point to their relative dates. At first the stūpas were built solid; but when larger ones were undertaken, this was too laborious or expensive. The building of a hollow dome and filling it with earth might be satisfactory in a small structure, but in a large one, it would not be a success, for the walls would fracture and fall out. Various expedients, such as the construction of masonry floors across the earth-packing, would be tried, and latterly the idea of placing interior supporting walls would suggest itself.

In describing the results of the excavations recently conducted at the three stūpas of Bhattiprolu, Gudivāda and Chantasāla, it may be of interest to compare the different methods employed in the construction of the brick domes of these, with those of the other South Indian stūpas as yet examined. These buildings are ten in number, and are all situated in the Krishna district<sup>1</sup>. Some others there are at Nāgūlapalle in the Ellore taluk of the Godāvāri district, but they are simply very small dāgobas grouped on platforms and are built of stone; they are hollow domes filled with earth. Except these, no other stone-built examples are known in Madras. In the construction of immense hollow domes of semi-spherical or flatter section, having no trace of arching, but with unmortared bricks laid from base to summit in horizontal courses, even though—as is not always the case—the bricks were good, it is evident that to prevent fracture, especially at the crown, some considerable skill was required. When the dome was of solid brick, only the secureness of the foundation would require to be looked to; but in the majority of these examples, this construction, whether from the expense of the immense number of bricks necessary or otherwise, has not been adopted. The materials used for packing the centre are earth, mud and concrete. In small structures, where sinking of the foundations, and consequent fracture of the masonry is not liable to occur, an earthen packing may be perfectly safe, but in large domes, any sinking of the wall may cause cracks which admit moisture, when the

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<sup>1</sup> Amaravati, Bhattiprolu, Gudivāda, Chantasāla, Juggayyapeta, Pedda Madulu, Pedda Gāṇjām (three stūpas), and Chantasāla.

expansion and contraction of the material is certain to cause the destruction of the dome. In some cases, this has been obviated by brick, concrete, or stone floors stretching across the interior at intervals in the height. Examples occur at Jaggayyapêta, Garikipâd, and Pedda Gāñjām. Others have cross walls in the interior with a mud-packing. Examples are at Ghantasāla and Pedda Gāñjām. Solid domes are found at Gudivāda and Bhattiprôlu, and these are undoubtedly the earliest of these stûpas. Properly made concrete is as secure as masonry, and, where limestone is abundant, can be cheaply made. This consideration may have led to its use at the Garikipâd stûpa. A simple earth-packing seems to have been generally employed only in the smaller buildings. The largest have interior cross walls in addition, or are of solid construction throughout. In few of these examples does sufficient of the facing of the superstructure remain to attest with certainty its original form. Most of them are razed to the level of the surrounding basement, with only a few courses of the upper exterior wall remaining, and a low mound of debris or masonry inside it. In the smaller structures, it may be confidently asserted that the dome was the form of outline. In the largest the building may have been constructed as a dome or in storeys. Those about which there is any question are Amarāvati, Gudivāda and Ghantasāla. When Colonel Mackenzie first saw the Amarāvati stûpa, "the central or higher portion of the mound was still untouched, and rose in a tapered shape to a height of 20 feet, with a diameter of about 90 feet at the top, and had been cased round with bricks." Its then form may, however, have been due to its being ruined; its original shape was probably a dome as represented on the sculptures. On account of the centre of the Amarāvati stûpa having been completely destroyed before accurate observations of its interior construction were made, it is now impossible to know whether it may have been constructed of solid brick or otherwise. Colonel Mackenzie, who visited the site in 1797, states "I found a circular trench about 10 feet wide, dug about 12 feet deep, into a mass of masonry, composed of bricks of 16 inches square and 4 inches thick. It is probable that this body of masonry did not extend to a greater depth. The central area was untouched, and a mass of rubbish was thrown outside of the ditch, which prevented any observation of its original state; but I conjecture that the whole had, previous to its opening, formed a solid circular mound." The base of this building was about 138 feet in diameter.

The stupa at Bhattiprôlu has a dome 132 feet and a base 148 feet in diameter. It is solid brick throughout. The bricks are of very superior manufacture. At Bhattiprôlu, a portion of the facing wall of the dome remains at the south-east quadrant. It is 5 feet 6 inches in height and has a batter inwards of 1 foot 2 inches, thus showing that it was a dome of a section of less than a semi-diameter.

The Gudivāda stûpa has been constructed of solid and well-made brick. It has been so much demolished that its size and form cannot now be ascertained, but, from what remains, it would seem to have approached those at Amarāvati and Bhattiprôlu.

The Ghantasāla stûpa is 122 feet 2 inches in diameter at the base and 111 feet at the wall above it. Its plan differs from any others known in the Madras Presidency. The nearest approach to it is the second stupa at Pedda Gāñjām. It has an outer ring of brick work 18 feet 8 inches thick, exclusive of the basement, which is 5 feet 7 inches broad. Inside is a concentric circle 55 feet 10 inches in exterior diameter, and with a wall 3 feet 6 inches thick. This seems to have been the dome wall. In the centre is a square cube of

<sup>1</sup> Burgess, *Lower and Upper Stûpas*, p. 20.  
<sup>2</sup> *Ibid.*, p. 21.

<sup>3</sup> *Ibid.*, p. 18.

<sup>4</sup> Madras G.O., No. 307 P., of 22nd April 1872.

solid brickwork surrounded by a hollow brick square. Cross and radiating walls connect these other walls, the small cells or chambers thus formed are firmly packed with black mud. The bricks of which the walls are constructed are of very inferior make. At Ghantaśālā, the interior walls would suggest stoneys as having been employed. These walls may, of course, have been used simply to strengthen the outer wall if it rose in the form of a dome, but its thickness of 18 feet 3 inches is proportionately much greater for a dome wall than in any of the other examples, where a ring dome was undoubtedly employed. The wall of the inner circle is of the usual proportions, and the dome would seem to have risen over it.

The stūpa at Garikapād is constructed of an outer brick ring, 8 feet thick at the base, with alternate layers of concrete and earth in the centre. Its diameter across the base is 8½ feet.<sup>1</sup>

At Jaggayvapēta, the stūpa has an outer brick casing with an interior packing formed of "layers of earth about 2 feet thick, over each of which was laid a close flooring of very large bricks closely fitted together." The diameter of the building is 31½ feet.<sup>2</sup>

The remains of the small stūpa discovered on the hill at Pedda Maddur near Amaravati show a diameter of 44 feet 6 inches, with a base wall 4 feet thick. It seems to have been packed with earth laid over a mass of large boulders.<sup>3</sup>

The largest of the three stūpas at Pedda Gañjām has been a hollow brick dome, packed with earth. A floor of packed stones runs across the interior near the foundations and may have been repeated at intervals in the height. In the centre of the foundations are a number of bricks in the form of a svastika. The diameter of the building at the base is 74 feet, with a wall thickness there of 10 feet. The dome wall has been 3 feet thick.<sup>4</sup>

In the remains of the second stūpa at Pedda Gañjām, the plan is two concentric brick circles separated from each other by a breadth of 4 feet 10 inches, and the two connected by twelve cross walls radiating from the centre, four of these walls project inside the inner circle. The exterior diameter of the outer circle is 38 feet 10 inches, with a wall thickness of 3 feet 10 inches, the outer diameter of the inner circle is 21 feet 6 inches, with a wall of 2 feet. As only one course of the bricks remains, it is impossible to say what the packing has been, but it was probably earth.<sup>5</sup> The foundations of a third stūpa were found here, having a diameter of 32 feet. It is a brick ring packed with earth, having a square pit in the centre packed with stones. Whether these latter extended up to the crown is uncertain.

Every one of these buildings has or had a square projection on the basement at each of the cardinal points opposite the four entrance gateways in the rail. From sculptured representations, these seem to have been intended as an architectural feature to give prominence to, or support the five stelae, which stood opposite these points near the dome. In the earliest stūpas, such as Bhattiprolu, Jaggayvapēta, and Garikapād, of the marble slabs which encased the basement, only those at the projections were sculptured.

It has been thought that the curious small circular shaft in the centre of the Bhattiprolu stūpa might have been the receptacle for the strong wooden post that supported the covering umbrellas. A similar but square shaft was found in the centre of the Ghantaśālā stūpa. That building has a greater proportional height of the dome intact, and the top of this shaft was closed with original brickwork, so that with it—unless the well had been again resumed

<sup>1</sup> Madras G O, No. 353 P, of 30th April 1889.

<sup>2</sup> Madras G O, No. 533 P, of 30th April 1889.

<sup>3</sup> Burgess *Minor and Jagg Stūpas*, pp. 107, 108.

<sup>4</sup> Madras G O, No. 760 P, of 14th July 1888.

<sup>5</sup> *Ibid.*

expansion and contraction of the material is certain to cause the destruction of the dome. In some cases, this has been obviated by brick, concrete, or stone floors stretching across the interior at intervals in the height. Examples occur at Jaggayyapéta, Garikapád, and Pedda Gañjám. Others have cross walls in the interior with a mud-packing. Examples are at Ghantasāla and Pedda Gañjám. Solid domes are found at Gudavāda and Bhattaprólu; and these are undoubtedly the earliest of these stūpas. Properly made concrete is as secure as masonry, and, where limestone is abundant, can be cheaply made. This consideration may have led to its use at the Garikapád stūpa. A simple earth-packing seems to have been generally employed only in the smaller buildings. The largest have interior cross walls in addition, or are of solid construction throughout. In few of these examples does sufficient of the facing of the superstructure remain to attest with certainty its original form. Most of them are raised to the level of the surrounding basement, with only a few courses of the upper exterior wall remaining; and a low mound of debris or masonry inside it. In the smaller structures, it may be confidently asserted that the dome was the form of outline. In the largest the building may have been constructed as a dome or in storeys. Those about which there is any question are Amarāvati, Gudavāda and Ghantasāla. When Colonel Mackenzie first saw the Amarāvati stūpa, "the central or higher portion of the mound was still untouched, and rose in a tapered shape to a height of 20 feet, with a diameter of about 90 feet at the top, and had been eased round with bricks.<sup>1</sup> Its then form may, however, have been due to its being ruined, its original shape was probably a dome as represented on the sculptures. On account of the centre of the Amarāvati stūpa having been completely destroyed before accurate observations of its interior construction were made, it is now impossible to know whether it may have been constructed of solid brick or otherwise. Colonel Mackenzie, who visited the site in 1797, states,<sup>2</sup> "I found a circular trench about 10 feet wide, dug about 12 feet deep, into a mass of masonry composed of bricks of 16 inches square and 4 inches thick. It is probable that this belt of masonry did not extend to a greater depth. The central area was untouched, and a mass of rubbish was thrown outside of the ditch, which prevented any observation of its original state, but I conjecture that the whole had, previous to its opening, formed a solid circular mound." The base of this building was about 138 feet in diameter.<sup>3</sup>

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Every one of these buildings has or had a square projection on the basement at each of the cardinal points opposite the four entrance gateways in the rail. From sculptured representations, these seem to have been intended as an architectural feature to give prominence to, or support the five stelæ, which stood opposite these points near the dome. In the earliest stūpas, such as Bhattiprōlu, Jaggayyapēta, and Garikapād, of the marble slabs which encased the basement, only those at the projections were sculptured.

It has been thought that the curious small circular shaft in the centre of the Bhattiprōlu stūpa might have been the receptacle for the strong wooden post that supported the covering umbrellas. A similar but square shaft was found in the centre of the Ghantaśālā stūpa. That building has a greater proportional height of the dome intact, and the top of this shaft was closed with original brickwork, so that with it—unless the well had been again resumed

<sup>1</sup> Madras G. O., No. 353 P., of 30th April 1888.

<sup>2</sup> Madras G. O., No. 381 P., of 30th April 1889.

<sup>3</sup> Burgess *Arts and Jagg Stūpas*, pp. 107, 108.

<sup>4</sup> Madras G. O., No. 703 P., of 14th July 1888.

\* *Id.* 2.

at a greater height,—it could not have served the purpose suggested. It has been so with the Bhattiprolu stūpa, though now, of course, it is not known whether it really was so. There seems reason to believe, from the figures of the post found at Nāgalapalle, from the umbrellas being stone, and from the representations, that the umbrella post also was of the same material. It may have served as a receptacle for fixing a sweep during the progress of the correct laying of the circular rings of brickwork.



## CHAPTER II.

## RAILS

The detached enclosing rail is a well-known feature of these buildings, but in the examples under note, no remains of any have been found except at Amarāvati and more recently at Bhattiprolu. The most complete rail is that at Amarāvati, its features have been fully described by Dr Burgess. The subject generally has been treated by Mr Fergusson.<sup>1</sup> His remarks refer chiefly to North Indian stūpas, the only one in the south, about which much was then known was Amarāvati. Most, if not all of these buildings in South India, have been greatly demolished, and we cannot expect to gather from their remains any very complete ideas of their construction, but much may be gained by a careful piecing together of what has been left of them. From an examination of these buildings, it seems doubtful if any detached rail ever did exist at some at least of the smaller ones. These stūpas generally have a flooring of bricks, or stone flags extending and forming a lower procession path around the basement, on the outer edge of which stood the principal rail, where one existed. Of the rail at Bhattiprolu, only a fragmentary portion has been uncovered. The size and spacing of the joints would seem to show that the cross-rails had been lenticular in shape and unsculptured like some fragments of one which were found at Amarāvati, and are now being pieced together and fitted up in the Madras Museum. It resembles one from Sāñchi, illustrated by Mr Fergusson.<sup>2</sup>

Although every stūpa may not have had a detached rail, all would seem—to judge from examples which remain complete enough to show the feature—to have had an inner rail or parapet on the edge of the basement or raised procession path, formed by the casing slabs over-topping it, and a coping panel on the top of them. From sculptural representations Mr Fergusson had inferred that this feature existed in the large top at Sāñchi.<sup>3</sup> It is clearly shown on all the Chaitya slabs found at Amarāvati, and subsequently at Pedda Ganjām and Ghantasāla. Undoubted traces of this feature have been found at one of these stūpas. At Pedda Ganjām a number of slabs, similar to plate XXVII of the present work, were found standing in position against the basement wall, with their tops above the floor line of the upper procession path. Traces of the brick support for the raised inner rail or balustrade over them also remained there. This must have consisted of a mable coping laid along the top of the casing slabs similar to some at Jaggayyapeta.<sup>4</sup>

At Ghantasāla, the height of the basement wall against which casing slabs would, as usual, be placed is  $\frac{1}{2}$  feet 3 inches. The heights of two slabs which have been found (pls XXVII and XXVIII) are 4 feet 9 inches and  $\frac{1}{2}$  feet 7 $\frac{1}{2}$  inches. If these slabs were among those from the basement wall, and,—as such panels have only been found in this position—it seems probable that they were, it is evident that independent of any coping over them their tops would surmount the procession path. Examples of coping slabs which must have been so placed are elsewhere illustrated (pls XVI and XXVI).

<sup>1</sup> *Ind and E. A. Arch.*, p. 84 et seq.

<sup>2</sup> *Ibid.*, pl. 30.

<sup>3</sup> *Ibid.*, p. 64.

<sup>4</sup> *Ind and Jagg. Stūpas*, pls. 17, figs. 1 and 3, and 111, fig. 2.

The preceding observations refer chiefly to the stūpas built of brick, which have the upper procession path, round the base of the dome, of a breadth about equal to or greater than the height of the surrounding basement wall. In this, their proportions differ considerably from some in the north. Sanchī, for example, has a basement height of 14 feet, and an offset above it of about 5 feet<sup>1</sup>. The buildings at Nāgalapalle form an exception to the rule followed in the others. As has been remarked, however, they are more small structural stone dāgobas. Their proportions are identical with a rock-cut dāgoba in an adjoining cave. One of the largest is 15 feet in diameter, with a base 7 feet in height, and an offset over it with a breadth of 12 inches only. Thus, it is evident, is only a simulation of the architectural feature of a procession path, though it could not have been used as such. It would require no balustrade or rail around it.

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<sup>1</sup> Ferguson. *Ind and East Arch.*, p. 64

Fig. 1 Arrangement of bricks in the centre

ate 0e ne laug e q u a r t s j u s l a n i n a p l u r m o s s e

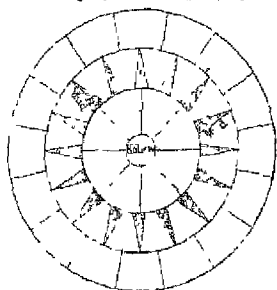
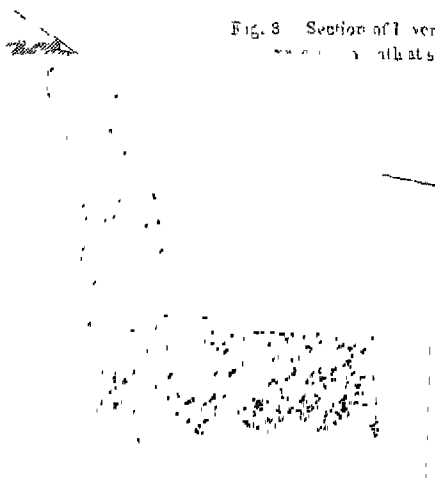


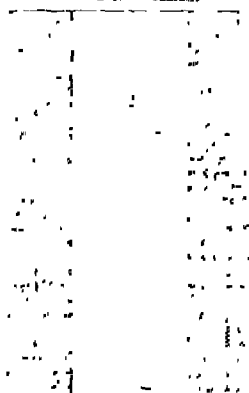
Fig. 2 Section of Central Burialled Well.

Fig. 3 Section of 1 ver

... ..



Present line of summit



Rail socket  
P  
pa

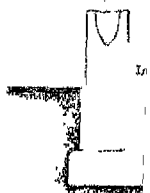
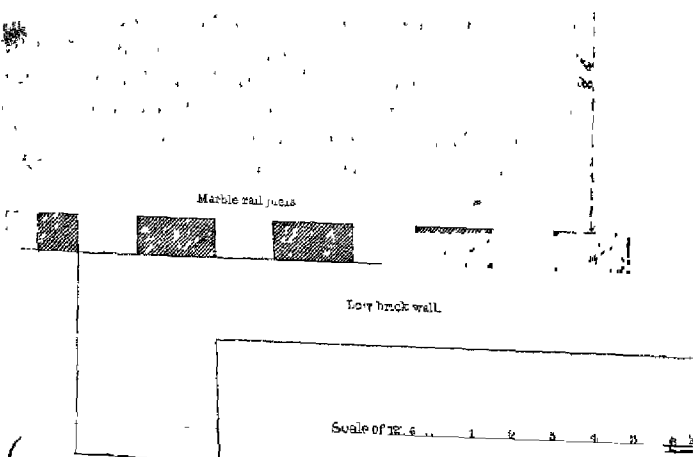


Fig. 5. Plan of Rail Piers, uncovered on north

Marble rail piers

Low brick wall

Scale of 1:6 ... 1 2 3 4 5 6



## CHAPTER III.

## BHATTIPRÔLU—PREVIOUS EXPLORATIONS AT THE STÛPA.

A village in the Rêpalle taluk of the Krishna district, standing 4 miles from the right bank of the main channel of the Krishna river, and about 24 miles west by south from Masulipatam.

On the south of the village is a mound known as Lañja dîbba, which covers the remains of a Buddhist stûpa. The mound is one of those mentioned in Mr Boswell's report (1870). It was again referred to by Sir Walter Elliot, in a letter printed in Government Proceedings of 7th June 1871. In the same year, some correspondence took place regarding the destruction of the mound for the materials it contained. The bricks, being of large size and good quality, were used for road-making, and the marbles variously utilized in the construction of a sluice in the Krishna canal. Some of these may at present be seen built into the bed of the sluice. As a result of the attention thus called to it, the mound was afterwards inspected by Mr. Norris, Assistant Engineer, who submitted a report to the Madras Government<sup>1</sup>. A note was also published in the *Indian Antiquary*<sup>2</sup>. He found the mound to be a solid mass of brickwork of very irregular shape, owing to a great part of it having been demolished for road metal; but the form was evidently circular. It was constructed of bricks about 1' 6"  $\times$  2' 0". Its height was about 14 feet, and area about 1,700 square yards. On the top was a small circular hole, surrounded by eight bricks, which reached from top to bottom. An earthen bank, which existed around, had been formed by the dust and refuse remaining from the demolitions which had, from time to time, been made. The mound seemed originally to have been a cone, with side slopes of one horizontal to two vertical. He thus estimated the original height to have been about 66 feet.

Some years later the tope was visited by Mr. Sewell, whose report was printed by the Madras Government.<sup>3</sup> He elicited the following facts:—". . . I must premise that ' the tope is now absolutely demolished, and I could discern no trace of any sculptured stones ' there. The village people told me that it had been a lofty mound up to a quite recent date, ' though they varied a good deal as to its height. Previous to the demolition it had shown ' the procession path round the top of the base of the dome, and they declared that it had been surrounded by a marble railing or wall about 4 feet high. They said that this ' wall had been partially standing at the time that the tope was destroyed and that the slabs had been utilized, some by being burnt for lime, and others by being employed in ' the construction of the Vellatur sluice. One of the employés of the Public Works Depart- ' ment also told me that there had been a wall of Palnad marble, and that it had surrounded ' the tope. He said that this marble wall was not sculptured, but that there had stood close ' by a detached pillar about 15 feet high, which bore figures of men and animals. He however ' differed from the villagers in saying that the marble had not been burnt for lime nor utilized ' in any way on the road.

Proceedings of the 11th October 1871

<sup>2</sup> Vol III, April 1874 p 124

<sup>3</sup> G O, No 1620, of 1st November 1873, pp 32, 34

"That there really were marble sculptures is tolerably conclusively proved by the fact that in the walls and floor of this very Velluthi shrine marbles have been extensively used. Some sculptured stones bear carvings assimilating in type to those at Amaravati though they do not appear to have been so beautifully executed.

"There can be little doubt, therefore, that up to recent times this *tope* was the best preserved in the locality. It had the dome, probably not perfect, but at any rate in fair preservation. It had at least one standing *Lādī*. It had the procession path clearly apparent, and it had a marble wall or railing round it. Mr Norris has called attention to the curious circular shaft, a few inches in diameter, running down the centre of the dome, which was probably the receptacle for the strong wooden post that supported its covering umbrella or umbrellas. All this has disappeared, and in its place remains a shapeless heap of earth and broken brick, 14 feet high at its highest, while the canal water streams muddily over the last fragmentary remains of marble rails and sculptured *Lādī*."

Mr Sewell elsewhere remarks, "I have it direct from the officer chiefly concerned in the demolition that the mound was between 30 and 40 feet high, of a circular shape like a dome, but ruined at the top; that there was a marble pillar standing erect, and sculpture here and there in marble, but he does not remember rails or walls of marble. He found inside the dome a casket made of six small slabs of stone dove-tailed into one another, measuring about  $2\frac{1}{2} \times 1\frac{1}{2} \times 1$ '. Inside this was a common clay chattri, and inside the chattri a neat casket made of soap-stone, which contained a crystal phial. In the phial was a pearl, a few bits of gold leaf and some ashes. Wishing to remove his discoveries, the stone casket was accidentally broken and the remains were left at Bhattiprôlu. The chattri was also broken. The 'soap-stone' casket was smashed during a voyage to England and the fragments thrown away. The crystal phial was presented to Dr Burnell."

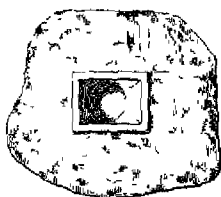
Mr. Boswell in a report to the Madras Government, and referring to the remains at Bhattiprôlu, says that during the demolition a stone casket was found, "inside of which was a crystal vial with some small pearls, &c. The natives say that another bottle was broken in digging, which contained the secret of alchemy, the substance capable of turning all other metals to gold. They also firmly believe these structures cover some hidden treasure, and from the fact of a five-headed Naga being discovered, this has been taken to fix the actual amount at five crores. . . . These remarkable structures have been entirely covered up and buried with a mass of earth, which has preserved them through long centuries, during which their history and purposes have almost perished and have certainly become forgotten in the neighbourhood, where they were originally raised. With all the interest that attaches to the Buddhist era of Indian History, it becomes us to deal reverently with these relics that time has spared. They are the evidences of a past age of civilization. When we have carefully disinterred them and brought to light the symmetry and proportions of their architectural designs, we shall probably find that they are worthy of a better fate than to make district roads."

<sup>1</sup> *Topographical Lists of Andhra*, vol. I, p. 77.

<sup>2</sup> "By soap stone. I understand a material similar to that of which the Amaravati casket at the Madras Museum is composed."

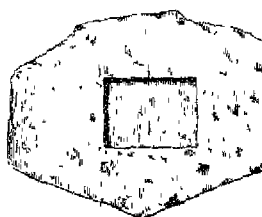
<sup>3</sup> Proceedings of 18th December 1871.

Fig 1



No. 1 Casket.

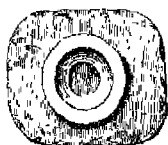
Fig 2



Section of Receptacle of No. 1

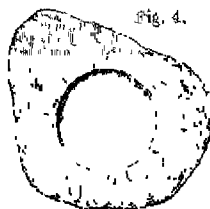


Fig 3.



No 2 Casket.

Fig. 4.

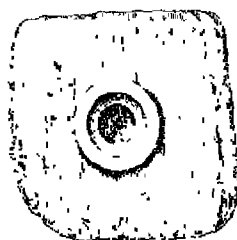


Section of Receptacle of No. 2.



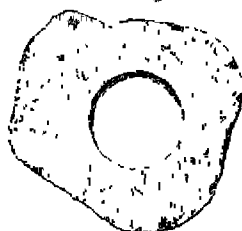
Section

Fig 5.



No 3 Casket

Fig 6



Section of Receptacle of No 3



Section

the caskets are not shown.

## CHAPTER IV.

EXCAVATION IN THE CENTRE, WITH DISCOVERY OF CASKETS  
AND RELICS.

The foregoing extracts represent all the published information available regarding this building. As a result of my visit in the beginning of the present year (1892), I learned that the above-mentioned casket had been found at a point just above the present summit of the mound. But as the principal deposit is usually placed down in the centre near the foundations, or at the level of the raised procession path which surrounds these buildings, and as the summit of the mound is at present 15 feet above that level, I considered it very probable that other relics might yet exist, buried down in the centre of the solid brickwork. The mound is now of very irregular shape, the upper half of the dome and about a quarter of the mass of brickwork of the outer radius on the north-east and west sides having been removed. Solid brickwork, earth and loose bricks appear all over it. On tracing the circular courses of solid brick on the top of the mound, it is found that the real centre of the buildings is, on account of the demolition, not now in the middle of the mound, but considerably to the north of it. This spot was carefully concealed under a covering of loose bricks and earth, and required some search to find it. On the debris being removed, the central courses were found to be untouched, and exactly as described by Mr Norris, with the addition, that, outside the eight large bricks which radiate around the small central well, there is another ring of sixteen wedge-shaped bricks each placed with the apex pointing to the centre. The triangular spaces between these bricks are filled in with clay. In the next course, the bricks are placed under the clay thus forming a sort of bond, and so on with each alternate course. The plan of any one course, thus, has a perhaps not unintended resemblance to a lotus flower. Outside extend the circular rings of ordinary rectangular-shaped bricks (pl II, figs. 1 and 2). The small well in the centre was filled with earth, but, at the time the top of the stûpa was removed, it appears to have been open, and was then sounded for a depth of about 15 feet from the present surface. On removing the central ring of bricks, I found that the small central well went down with its sides straight for a depth of 5 feet 9 inches from the surface. Below that, the courses were stepped, leaving alternate diameters of  $9\frac{1}{2}$  inches and 1 foot 3 inches (fig 2). Among the earth removed from the centre at the beginning of these steps was a small flat piece of black stone, a piece probably of the formerly found and broken casket. The excavation resulted in the unearthing of three inscribed votive caskets containing inner stone and crystal caskets, relics and jewels. They were placed at different levels near the foundations.

## PLATE I.

This plate shows the articles found during the excavation in the centre, it is divided by horizontal lines into three compartments. The uppermost shows the contents of the first receptacle. The articles in the upper part were those found surrounding the small globular stone casket. Those below them are the coins, beads, and flowers which were inside the globular casket. In the centre of the plate are the objects from the second casket. The lowest compartment has those from the third casket. Underneath stand the small inner casket. On the left is the globular stone casket of the first receptacle with the cylindrical crystal phial, which stood inside it. In the centre is the second crystal phial. On the right is the third crystal phial and miniature beryl casket. These articles are now in the Madras Museum. They are described in detail in the following chapters





## CHAPTER V.

## FIRST CASKET.

The bricks were removed for 14 feet 6 inches from the surface, or almost exactly on a level with the top of the raised basement or procession path which surrounds the dome, where a large irregular three-sided slab of black stone was found unbedded in the brickwork on the south side of the excavated shaft. It measures about 2' 11" x 2' 6". The two inner sides of the stone radiated from and touched the central well; its outer side was curved concentric with the brickwork. It proved to be the lid of a large stone relic casket (pl. III, fig. 2). Its under surface is smoothed, and has a rectangular cutting, measuring 11" x 8" x  $\frac{1}{2}$ " deep. It lay on the top of another similar but thicker stone which formed the receptacle for a number of relics (fig. 1). Its size is 2' 3" x 1' 10" x 13". On its upper surface is a cavity, 5 inches deep, and circular on the bottom, but sloping up to a rectangular top with raised rim made to fit into the hollow in the lid. The length of the rectangle lay east and west. The upper surface of the stone is smooth, and, cut on it around the casket chamber, are two lines of an inscription in a new type of the Southern Maurya character.<sup>1</sup> In the cavity stood a globular black stone relic casket (pl. IV, fig. 7). Around this casket and mixed with the earth which filled the cavity were the following articles, of which a few are illustrated on the above plate. A copper ring (fig. 1), and several bits of copper, a small bead and two double pearls, two small semi-spherical cups made of a hard brown metal. They fit into each other, and are evidently the lid and receptacle of one vessel. On the apex of the lid is a gold bead. The other also has had a gold bead, which was found in the earth alongside (fig. 5). One bears traces of some sort of resin having been inside.

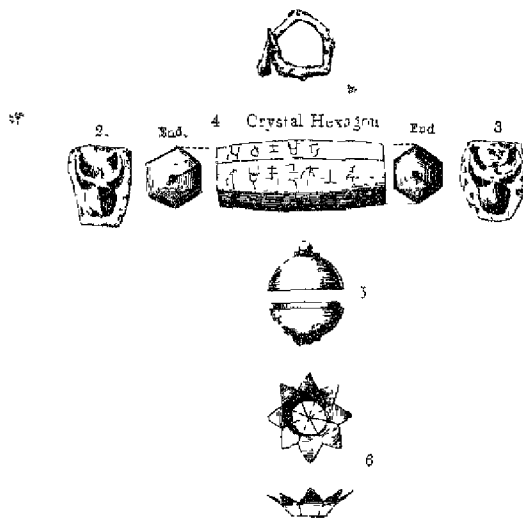
A hexagonal crystal (fig. 4, and pl. V<sup>2</sup>), with slightly convex sides, pierced with a hole through its axis. On each of the sides is lightly traced or scratched with one stroke for each line of the letters an inscription in a similar character to that on the stone. The first line of the inscription is indicated by a line drawn from the centre of the end to one of the angles. A similar but bent line appears on the other end in the middle of the third line of letters. It will be obvious that, being pierced, it must have been used for suspending around the neck, most probably as an amulet. Phylacterions were used by the Greeks and other nations of antiquity, and like this they usually bore inscriptions. The Lingayats, at the present day, suspend a like object, being a linga enclosed in a box.

Made of thin sheets of pure gold were two trisulas (pl. IV, figs. 2 and 3), and four flowers with eight petals, one of which is shown in figure 6. There were also a hollow single and a double gold bead and seven small triangular pieces of the same metal, these last are evidently pieces of a flower. As to the position these objects occupied in the cavity around the globular stone casket, the two small semi-spherical vessels lay on the west,

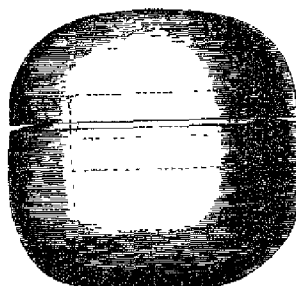
<sup>1</sup> For a note on this and the other inscriptions, see letter by Dr. Bühler in the *Monetary* of 28th May 1893, *Journ. R. As. Soc.* part 3, July 1893, pp. 602-609, and *Wiener Zeitschrift für die Kunde des Hinduismus* No. 5, 1893. Translations will afterwards be published in the *Epigraphia Indica*.

<sup>2</sup> In the photographs in this plate two faces are shown on each figure. It was found that the reflection from the sides obliterated all trace of the letters when viewed in the camera. The remaining four sides of the prism had thus to be washed with Indian ink. The two sides in the view were touched with Chinese white, and this colour, being afterwards scraped off, left every letter, dot, or line on the two surfaces clear on the photograph.

the crystal prism, gold flowers, &c., on the east. The globular casket is  $4\frac{1}{2}$  inches in diameter and height (fig. 7). The lid fits loosely on a groove in the lower portion. The inner cavity is cylindrical, and inside it stood a cylindrical crystal phial  $2\frac{1}{2}$  inches in diameter by  $1\frac{1}{2}$  inches in height (figs 11 and 12). Its position in the globular stone casket is shown on figure 7. It is moulded on the sides, flat on the top and bottom and has its lid fitted in the same manner as the small receptacle which encloses it. Inside is a flat piece of bone,  $\frac{1}{2}$  inch broad; it is smooth on the one side and celled on the other, its position in the crystal casket is shown on figure 12. The method of preserving the relic with the triple casket has perfectly served its purpose, for, though there were dust and earth in the two stone caskets, there was scarcely a speck in the crystal one. Inside the globular stone casket and lying below the crystal phial were nine small flowers of various sizes in gold leaf, one of the largest is shown on figure 8. Six hollow gold beads over  $\frac{1}{4}$  inch in diameter (fig. 9), and eight smaller. Four small flowers in thin copper, similar to those in gold. Nineteen small pierced pearls, and a slightly blue coloured amethyst bead (fig. 10). Fixed on the bottom by oxidation and arranged in the form of a svastika (fig. 13) were twenty-four small silver coins. They are plain on the reverse, and on the obverse have Śrī-pādas, triśūlas, lotus flowers, and other emblems more or less legible. In the svastika, nine coins were in the centre rectangle, three on each of the four arms, and the other three (fig. 11) over the centre. The flowers and beads seem also to have been originally arranged symmetrically. An example of this symbolical use of the svastika was found in the centre of the largest of the stūpas at Pedda Gañjām.



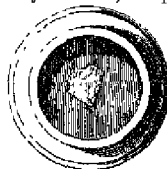
7 Globular Stone Carlet



11 Crystal Flax, side



12 Cry-tal Paml, receptacle



14.



THREE VIEWS OF INScribed HEXAGONAL CRYSTAL, SHOWING THE SIX INSCRIPTIONAL FACES.

1



2



3



## CHAPTER VI.

## SECOND CASKET.

The bricks in the shaft were removed for a further depth of 2 feet 6 inches below the level of the surface of the lid of the casket just described, or 17 feet in all from the top of the shaft, when another black stone was found on the north side of the well, and, like the first, sunk a foot into the side wall. It was the lid, and, another stone which lay below it, the receptacle of a second relic casket. The covering stone (pl. III, fig. 4) is roughly triangular in form with rounded corners, and measures about  $2' 3'' \times 2' \times 10''$ . On the top is a circle  $7\frac{1}{2}$  inches in diameter, raised  $\frac{1}{8}$  inch above the surface. The under side is smooth and has a circular space  $\frac{1}{2}$  inch deep and 13 inches in diameter. In this circle is an inscription in 19 lines, while around it is another in two lines. The letters were all filled in with white. The stone receptacle (fig. 3) is roughly rectangular, with rounded corners, and measures  $1' 8'' \times 1' 4'' \times 12''$ . On its upper surface is a circular hole  $6\frac{1}{2}$  inches deep,  $7\frac{1}{2}$  inches in diameter at the top and 4 inches at the bottom. Around the top is a raised rim,  $1\frac{1}{2}$  inches broad, which fits into the hollow in the lid. Around and outside the rim is an inscription in two lines. These letters also are filled in with white. The cavity was nearly filled with earth, and had no inner stone casket as with the first. In it was a crystal phial (pl. VI, fig. 1)  $1\frac{3}{4}$  inches in diameter by  $2\frac{1}{4}$  inches high. Its lid is moulded like a *dâgoba*. The hollow in the vessel is cylindrical. The top and bottom were lying separate and filled with earth. There was no sign of a relic inside. The following articles were found among the earth in the stone cavity — 164 gold flowers of varying sizes such as are illustrated in figures 2 to 6, some are plain and others have dots around the petals, they have six, eight and nine petals, and some have been fitted inside each other with a gold bead as a bud (fig. 11). Two circular flowers (figs. 7 and 8), a two-armed figure (fig. 9), and two trinacrias (figs. 10 and 12). All these are in gold leaf or thin sheets of gold. Two gold stems for flowers, one of them attached (fig. 14). Six hollow gold beads (fig. 15), and a small coiled gold ring (fig. 13). Two pearls, a garnet, six coral beads (figs. 19, 20 and 21), and a bit of the same material. A slightly blue flat oval crystal bead and a pointed oval white crystal bead (fig. 17). Two flat six sided chrysolite or beryl drops (figs. 16 and 18). There were a number of bits of corroded copper leaf, including flowers, stems, and a miniature umbrella. The remains of a small silver *Śasanam*. The metal of this is very thin, almost completely corroded, and in consequence extremely brittle, so that it seems uncertain whether it will be possible to unfold it. It has been a long strip of metal  $1\frac{3}{4}$  inches broad, wound in a roll to about eight thicknesses and pressed flat (fig. 22). Three lines of letters have been pricked on the side folded inwards. The largest piece is 2 inches in length. At first, it was covered with green corrosion, doubtless due to its lying among the pieces of copper, but on a partial cleaning, the white metal appeared.

## CHAPTER VII.

## THIRD CASKET.

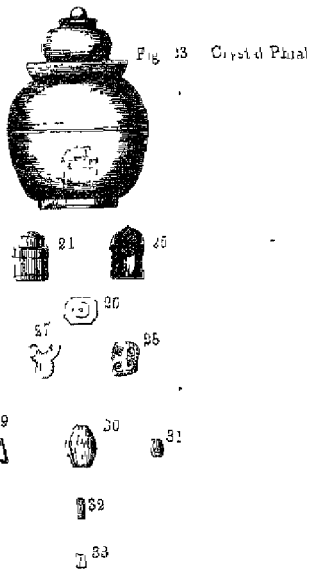
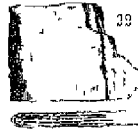
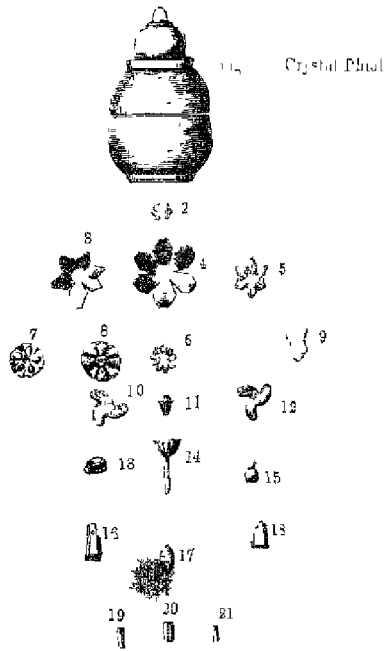
At a depth of 18 feet from the surface, the third and last casket was found lying on the east side of the shaft. The lid is an irregular circular stone measuring about 2 feet 3 inches across by from 9 to 10 inches thick (pl. III, fig. 6). On its under surface is a circular space sunk  $\frac{1}{2}$  inch, having an inscription in eight lines, with letters whitened. The stone receptacle which it covered is roughly square in shape, and measures  $2' 5'' \times 2' 3'' \times 11''$  (fig. 5). On the upper surface is a circular cavity  $5\frac{1}{2}$  inches deep,  $7\frac{1}{2}$  inches in its upper diameter, and 5 inches at the bottom. Around it is a rim  $2\frac{1}{2}$  inches broad, which fits into the hollow in the lid. Outside the rim is a circular inscription in one line, with letters whitened. The cavity was nearly filled with earth. In it were a crystal phial of the shape of that found in the second casket, but slightly larger (pl. VI, fig. 23). The hollow in this vessel is cup-shaped. The phial is  $2\frac{1}{8}$  inches in diameter by 3 inches high. The two pieces lay apart and were filled with earth. Close to the phial lay a miniature reliquary casket made of a beryl (figs. 24, 25 and 26). Thus, as with the first casket, this had a triple receptacle, and owing to this the relics were found intact in the innermost one. They are three small pieces of bone. The beryl casket had originally stood inside the phial, as shown in figure 23. A cylindrical hole,  $\frac{1}{4}$  inch in diameter, is drilled in its axis, in which are the relics. The hole is closed by a small white crystal stopper with hexagonal top, with a sheet of gold leaf fixed on to it. A loose sheet of the same material closes the joint at the necking, and another is placed outside on the bottom. The total height of the casket is 75 inch.

Two amethyst beads (figs. 30 and 31) and a yellow crystal bead. A small hexagonal crystal drop of a slightly yellow colour (fig. 32), and another flat one of white crystal (fig. 29), a bone bead (fig. 33).

Six pearls and thirty-two seed pearls, all pierced. Thirty flowers, similar to those above described, a bent two-armed figure (fig. 27), and a quatre-foil (fig. 28), all in gold leaf. A piece of what appears to be silicate; an apparently iron cinder; and a few bits of copper.

The bricks were removed from the shaft, down to the foundations, which were found to be 23 feet from the summit of the mound. The brickwork in the centre is thus 3 feet below the level of the brick flooring which surrounds the stūpa.

Fig. 12



Scale of 1 2 3 4 5 6 inches

## CHAPTER VIII.

## EXCAVATION AROUND THE BUILDING

To ascertain what size the building had been, and whether any marbles yet remained, some trenches were dug at points around the exterior of the brickwork. The brick basement, or raised procession-path at the south-east quadrant, was found unbroken; but no marble slabs remain against it. The unbroken face of the dome also, at this point, remains intact for a height of over 5 feet above it. A section is shown on plate II, figure 3. The radius, from the centre of the building to this remaining portion of the wall of the dome, is 66 feet, making its diameter 132 feet, and, as the breadth of the surrounding basement is 8 feet, its diameter is thus 148 feet. For comparison as to size, it may be mentioned, that the base of the Amarāvati stupa was about 138 feet in diameter<sup>1</sup>. Outside the raised basement, and eight feet below the surface, is a brick floor, on the outer edge of which, would once stand the marble rail, but the only remains of it were some traces of brickwork and chips of marble.

At the position of the north-east quadrant, the brick flooring between the basement and the rail remains. The basement itself has been removed, and a considerable portion of the brickwork of the dome inside the line of it. The mound which covers the remains of the central building is surrounded by another ring of mound on every side except the east. This outer ring is the earth thrown up during some of the previous excavations. On the north side, two parallel trenches were carried outwards from the position of the basement through this outer bank. These trenches were then connected by a cross cut. At this point some courses of the basement and of the north projection remain in position. I found here two pieces of a marble umbrella having a curve with a radius of 1 foot 6 inches (pl VII, figs 1 and 2), a small piece of a pilaster base from a slab (fig. 3); a pilaster capital with horses and riders (pl VIII), and the half of what has been a large slab carved with the lower portion of a draped figure (pl IX). The figure panel is checked on one side with a pilaster up its edge, and the portion of the drapery that remains, is but slightly raised from the surface. The carving is in the same archaic style as in those from the stūpas at Jaggay yapêta and Garikapâd. At a distance of 8 feet 4 inches from the basement, I found the remains of six marble bases of the rail standing in position (pl II, fig. 5). They measure 1 foot 11 inches by 12 inches, by 1 foot 10 inches in height, above ground, with a space between each of 1 foot 7 inches. Some of them have a portion of the lower disc-shaped socket hole for the rail panel. They are sunk 1 foot 6 inches below the brick floor; and rest on a broad slab of marble laid longitudinally below them (fig. 4). Outside is a low brick wall. The ground was opened up for a few feet around these, but none others were seen there, nor any of the large panels which would surmount the rail. Similar trenches were dug on the west side, but though some courses of the basement remain, and several small plain slabs, splayed on one edge, were found outside it, no trace of the rail appeared. On the south, digging could not be carried out, on account of the proximity of a tank. Two octagonal piers, and a block of marble lie on the position of the north-east quadrant of the rail. The two former are illustrated on plate X, figures 1 and 2. Some small saucer-shaped earthenware

<sup>1</sup> Burgess *Am. and Jag. Stūpas*, p. 21.



lamps, exactly similar to some found at Nāgalapalle, were dug out of the north trenches (pl. VII, figs 4 and 5).

The space between the rail piers is about half that of Amarāvati, and I think the panels can hardly have been carved like those from that stūpa. They have probably been of plain lenticular shape, like those at Sāñchi. It is difficult to believe that all the large top-panels,—which would be sculptured—have gone: some must surely be lying under the earth bank outside the position of the rail.

That the basement wall panels, and not those of the rail, were the marbles removed and broken up for use on the canal, seems certain. An old mason, and others who removed these stones, stated that the slabs were plain and about 4 feet square, standing with their tops about a yard underground. They had been removed from all around the wall. On seeing the portion of the south-east basement uncovered the men recognized it as the position these slabs had occupied. These particulars agree with the depth of the basement underground, and the size of the slab now found. The portion of the rail, also, uncovered, shows that such slabs could not have been used in its construction. Everything would seem to point to a similarity of design and arrangement of the basement wall panels of this stūpa, and those at the two places named. Thus only the panels at the four cardinal projections of the basement would be sculptured. The line of slabs which surrounded, and which were removed from the face of the basement, would be plain, with the exception of a pilaster up one edge of each.

# BHATT RÔ

Fig 1.

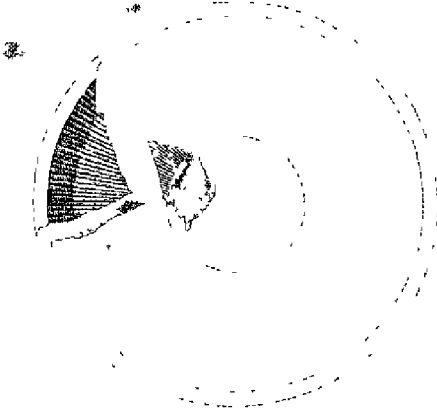
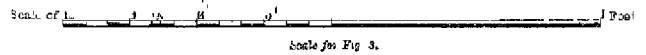


Fig 3.



Fig 2.



Scale for Fig 3.



Scale for Figs 1 and 2.

Fig 4.



Fig 5.

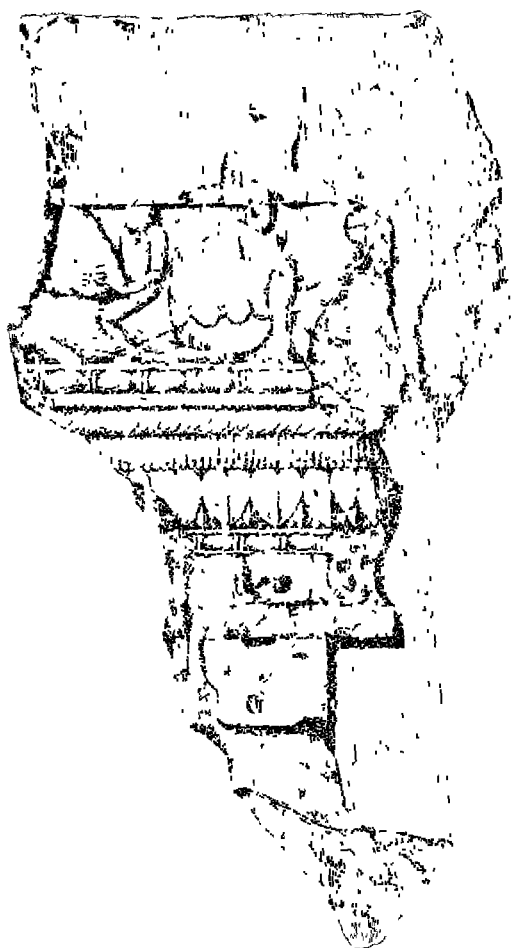


Scale for Figs 4 and 5

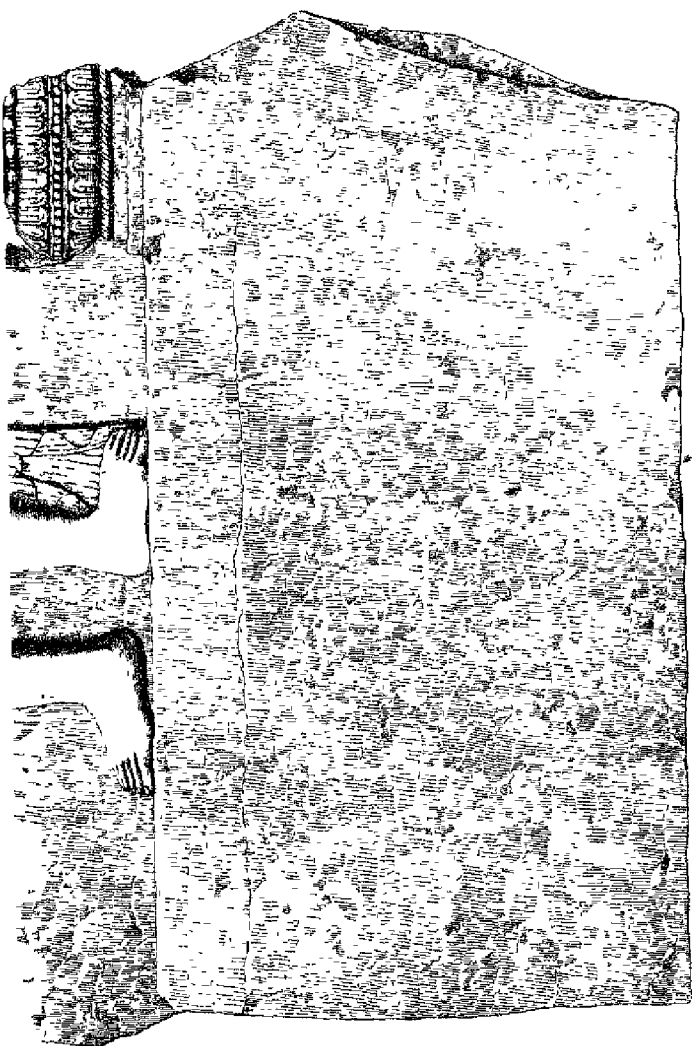
M H C

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Fig 1



Plan



Fig 2



Plan



Scale of 12 6' 3' 1 2 3 4 5 6 7' 8 9' 10 Feet

## CHAPTER IX.

## REMAINS NEAR BHATTIPRÔLU CHINNA-LANJA DIBBA.

Immediately on the east of the stûpa is the camping tope. It is a slightly-raised piece of ground known as Chinna-Lanja dibba. From the name, and the presence of bricks in the soil, it has probably been the site of a Buddhist building. A legend is current to the effect that a dancing girl had her residence here, the large mound was the temple where she worshipped. There is also a story of a "treasure" having been found many years ago at some spot in it, and a stone box or casket, similar to those recently taken from the centre of the large stûpa.

## VIKRAMÂRKA KÔTA DIBBA.

On the east outskirts of the village is a piece of ground under cultivation, and planted with ummusa trees. It is known by the above name, and is said to have been the site of the fort of the king who ruled here. A long low mound—one of the walls of the fort—can be traced for some distance. It is said that large bricks were found, while it was being dug into some "thirty years ago."

## CHAPTER X.

## THE STŪPA AT GUḌIVĀDA.

This town is the taluk head-quarters, and stands twenty miles north-west of Masulipatam. The remains of the demolished Buddhist stūpa stand in a low mound in the village. The ground measures about 140 feet square. On the west and south are roads, and on the two other sides, house yards enclosed by mud walls, built on the slope of the mound. The mound is very much smaller than the one at Amarāvati, the slope of which extends for a very considerable distance beyond the outside limits of the building.

The existence of a stūpa at this place, was first brought to notice by Mr Boswell in a report to the Government of Madras in 1870.<sup>1</sup> He states that "at Guḍivāda there is a circular mound resembling the one at Amarāvati. It is known as *toppa dibbi* or *barbat's* mound. It is reported to have been raised by a dancing girl who lived on the top, and confined herself to one meal a day, of which she delayed to partake till she could see the lights of Akarepally Pagoda. The mound, however, evidently covers the ruins of a Buddhist dagoba. Well burnt bricks are found in large quantities. As there is no stone available in this neighbourhood, sculptures probably do not exist, but the people tell of a stone-casket dug up here containing a pearl, some gold leaf, and other relics. There are said to have been formerly ninety-nine Buddhist or Jain temples here and ninety-nine tanks." In a subsequent report,<sup>2</sup> Mr Boswell makes reference to the stūpa having been excavated to provide bricks for road-making. In the orders by Government on the two above-quoted reports, instructions were issued for the protection of this and other Buddhist monuments in the district.

The locality was afterwards visited by Mr Sewell, who concluded, from the appearance of the mound, that it was a brick-made *tope* of about the same dimensions as that at Sāñchi.<sup>3</sup> No trace could be found of any sculptures or relics as at Sāñchi and Amarāvati.

Mr Sewell considered it possible that, in the absence of stone, the rail might have been made of brick or wood, and in consequence have been completely destroyed. It seems more probable, however, that, if a rail really existed, it would, as has been the case in every instance of the discovery of traces of one in a South Indian stūpa, be constructed of marble. In the majority of stupas, some trace of marble construction has been found, though the material does not exist in the locality, and must have been conveyed for long distances, probably from the Palnāḍ, where the stone exists.<sup>4</sup> Dr Burgess found, that the stone used in the Jaggayyapēta stūpa had been quarried on the bank of the Krishna, immediately to the south of that place, and that the same stone must have been used at Amarāvati.<sup>5</sup>

Mr. Sewell obtained from a subordinate of the Public Works Department the following description of the discoveries made in the mound when in progress of demolition. He states that "four stone receptacles were found at the four corners, each measuring about two feet by one foot six inches, formed by the erection, on one stone as a base, of four stones placed on their edge, with a covering slab. Inside each was a casket, but I could not

<sup>1</sup> G.O., No. 1725, of 7th November 1870.

<sup>2</sup> Report in G.O., No. 1820, of 1st November 1870, p. 31.

<sup>3</sup> G.O., No. 2168, of 14th December 1871.

<sup>4</sup> *Eastern District Gazetteer*, p. 161.

<sup>5</sup> *Annals and Jagg Stupas* p. 167.

ascertain what material they consisted of, nor what they contained, nor can I ascertain what has become of them." In a letter from Sir Walter Elliot, published by the Madras Government,<sup>1</sup> the following reference occurs. About 1840, a mound of brickwork was demolished to obtain material for repairing the high road between Bezvāda and Bandar, and in it were found "four stone-vases, each containing a crystal reliquary, not deposited in the centre of the mound as at Dīpal-dinna (Amarāvati) but in the four sides" . . . "A similar deposit was found some years ago by the Zemindar of Pittapoor in the Rajahmundry district. The four stone-vases, each containing a crystal box, were seen by Sir Henry Montgomery in 1843, who induced the Rajah to send them to the Government Museum, where they now are. They were figured in the *Madras Journal of Literature and Science*, Vol. XV, and plate 2, but without any description, *Madras Journal*, Vol. XIX, p. 235." These stone boxes have since been figured and described by Dr. Burgess.<sup>2</sup> Four small crystal caskets, which seem to be those above referred to, have just (1892) been found in the Madras Museum. They are similar in shape, but smaller than the first crystal casket from Bhattiprôlu. A slight difference is seen in their each having a small knob in the centre of the top of the lid. The description of the construction of the Gudivāda caskets tallies with that of the casket found in the upper part of the Bhattiprôlu stūpa, when it was being demolished—it also was made up of stone slabs. In the notes of the finding of these four caskets, it is uncertain which "four corners" are referred to, for it must be remembered the building is a circular one. The account does not state whether around or near the centre, or the circumference. They may have occupied positions similar to the lower ones at Bhattiprôlu. From enquiries on the spot, one at least appears to have been found high up in the centre of the brick mound.

Though all traces of marble sculptures, or rail, had been removed from the surface, it was possible that some of them might remain underground, as at Amarāvati and elsewhere. This could only be ascertained by digging. Owing to the confined nature of the ground, there was very little room for trenches, and no digging could be done outside the limits of the mound; but at different points, on the west, north, and east sides, I had three trenches sunk on the boundaries of the ground. These showed that the foundations were three feet below the level of the roads, and the brickwork remained for a height of from nine to eleven feet at the highest parts. The walls stand close up to the boundaries, but as the faces are rough, it is impossible to ascertain how much further out the unbroken walls may have extended. The exact size of the stūpa cannot thus be known. Traces of circular courses of brickwork appear on the mound, and a very slight scraping of the earth, which has accumulated over it, shows that it is solid up to the centre. In this respect, its construction has been similar to that at Bhattiprôlu.

<sup>1</sup> Proceedings of 7th June 1871, No. 1000

<sup>2</sup> *Annals and Jigg. Stūpa*, p. 99, pl. I. 101